[Document] Claims

1. A semiconductor laser element comprising:

a plurality of ridges arranged in parallel with each other inside a pair of first supports protecting said ridges; and

a second support provided between said plurality of ridges and protecting said ridges.

2. The semiconductor laser element according to Claim 1, wherein said second support is provided corresponding to each ridge.

3. The semiconductor laser element according to Claim 1 or 2, further comprising:

a monitor region provided to an outermost edge of said semiconductor laser element to monitor progress of etching.

4. The semiconductor laser element according to Claim 3, wherein said monitor region serves as an isolation groove to isolate said semiconductor laser element.

5. The semiconductor laser element according to Claim 1, wherein a distance from a center of said ridge to ends of said first and second supports on sides thereof facing said ridge is set within a range from more than 20 μm to less than 50 μm.

6 The semiconductor laser element according to Claim 5, wherein said distance is set within a range from more than 20 μm to 40 μm or less.

7. The semiconductor laser element according to Claim 5, wherein said distance is set within a range from more than 20 μm to 33 μm or less.

8 The semiconductor laser element according to Claim 5, wherein said distance is set within a range from 30 μm or more to 33 μm or less.

9 The semiconductor laser element according to Claim 1, wherein a ratio of a width of said first and second supports relative to a chip width of said semiconductor laser element is set within a range from more than 33% to less than 52%.

10 The semiconductor laser element according to Claim 9, wherein the ratio of the width of said first and second supports relative to the chip width of said semiconductor laser element is set within a range from more than 44% to less than 50%.

11 The semiconductor laser element according to Claim 1, wherein a ratio of an area of

said first and second supports relative to an area of said semiconductor laser element is set within a range from more than 33% to less than 52%.

12 The semiconductor laser element according to Claim 11, wherein the ratio of the area of said first and second supports relative to the area of said semiconductor laser element is set within a range from more than 44% to less than 50%.

13 A method for manufacturing the semiconductor laser element according to any of Claims 1 through 12, comprising:

arranging a plurality of ridges in parallel with each other on an element surface and providing each ridge with a plurality of supports to sandwich each ridge;

providing a block layer on surfaces of said ridges and said supports;

applying a protective film by spin coating to a surface of said block layer;

removing said protective film covering a top surface of said ridges;

removing said block layer covering the top surface of said ridges with said protective film serving as a mask; and

providing an electrode layer covering said ridges.